UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/931,792	08/16/2001	Kedar Madineni	5166P014	3631

8791	7590	09/28/2004	

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EXAMINER
COURTENAY III, ST JOHN

ART UNIT	PAPER NUMBER
2126	

DATE MAILED: 09/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/931,792	MADINENI ET AL.
	Examiner	Art Unit	
	St. John Courtenay III	2126	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 August 2001*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 August 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All   b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

ST. JOHN COURTENAY III
PRIMARY EXAMINER

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date *3-5-04*.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

Detailed Action

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1- 8, 15 – 23, are rejected under 35 U.S.C. § 102(e) as being anticipated by **Merrell et al.** (U.S. Patent 6,553,408).

As per independent claims 1, 15, 22:
Merrell teaches a method comprising:

- receiving at least one high-level request regarding at least one designated device of a plurality of devices from at least one application program [e.g., see "For example, SCSI storage transactions are sent to a device driver in the SCSI target class. Similarly, IP storage transactions are sent to a device driver in the IP target class. Here, the storage transaction was made using the SCSI communication protocol so it is routed to a SCSI target device driver (DID 500)." and associated discussion col. 18, beginning line 24] ;

- translating the at least one high-level request to at least one low-level request [e.g., see " The SCSI target device here, driver number

500, <u>translates the SCSI message into an internal format</u>. One such format is based on the I.sub.2 O block storage architecture (BSA) format. This format is device and protocol neutral and can be used by the **intermediate device drivers**. Once the request is in internal format, it is sent to the next virtual device in the virtual circuit as indicated by the parameter field, here, the parameter is VD(13) or virtual device 13." and associated discussion col. 18, beginning line 44] ; and

- communicating the at least one low-level request to at least one device driver associated with at least one device [e.g., see " The message is routed to the VD 13, which provides redundant caching drivers, here, the drivers numbered 10300 and 10301. The caching driver uses a memory to cache storage transactions. Based on the caching algorithm being used by the driver, the driver will route storage transactions to the next virtual device in the virtual circuit at appropriate intervals. Here that next device is indicated by the parameter VD(14), or virtual device 14." and associated discussion col. 18, beginning line 52].

As per dependent claims 2, 16, 23:
Merrell teaches receiving at least one low-level message from at least one device and translating the at least one low-level message to at least one high-level message and forwarding the at least one high-level message to the at least one application program that sent the at least one high-level request [e.g., see " The target server 550 has a message interface 551 which receives incoming messages from an HDM, such as the HDM of FIG. 5, coupled to a communication interface adapted for connection with a user. In this example, the messages on interface 551 have an SCSI format. In other examples, the messages may already have the BSA architecture, or some other architecture which is suitable for the protocol on the communication interface being served. The server 550 includes a switch function 550 which translates incoming messages to a SCSI to BSA translator 553, or to an answer local function 554. Typically messages are forwarded by the translator 553 as outgoing messages on line 555. Incoming messages on line 555 are supplied to translator 556 which translates the incoming BSA messages to the SCSI format used on line 551." and associated discussion col. 13, beginning line 20] .

As per dependent claims 3, 17:
Merrell teaches the at least one request comprises at least one of a <u>status request</u> and a control request [see status messages and associated discussion, col. 13, line 30; see status inquiries

col. 6, line 45].

As per dependent claim 4:
Merrell inherently teaches receiving the request is achieved via
<u>one of</u> /proc file system, ioctl, <u>system call and direct function call</u>
as device drivers are necessarily invoked with a system or direct
function call [see DDM discussion col. 11].

As per dependent claims 5 – 8, 18 - 21:
Merrell teaches gathering a plurality of statistics and
configuration information regarding the plurality of devices as
well as message reporting [see "monitoring the system"
discussion col. 6, line 35; see message routing, col. 6, line 5].

3. Claims 9- 14, 26, 27 are rejected under 35 U.S.C. § 102(b) as
being anticipated by **Senator** (U.S. Patent 5,809,303).

As per independent claim 9:
Senator teaches a system comprising:

- a processor and a memory coupled to a bus [col. 3, lines 8-
  10; a data bus and an address bus inherently couple the
  disclosed CPU to the disclosed memory unit];

- at least one application program [see "application level
  software" and associated discussion, col. 1, line 50];

- a multiplexor to forward requests from the at least one
  application program to at least one of a plurality of device
  drivers for corresponding devices, and to forward
  information received from the device drivers regarding the
  devices to the application program [e.g., see discussion of
  "kernel statistics module" and associated discussion col. 4,
  beginning line 5, discussion cont'd at line 36].

As per dependent claim 10:
Senator teaches the multiplexor comprises: a high-level interface to receive the requests from the application program [see DDI/DKI interface 28, col. 4, line 3]; and a low-level interface to receive the information from the device drivers [e.g., see discussion of "kernel statistics module" and associated discussion col. 4, beginning line 5, discussion cont'd at line 36].

As per dependent claim 11:
Senator teaches the information received from the device drivers is translated into a high-level message format before being forwarded [see call-back discussion col. 6, line 27].

As per dependent claim 12:
Senator teaches the requests comprise at least one of a status request and a control request [e.g., see discussion of "kernel statistics module" and associated discussion col. 4, beginning line 5, discussion cont'd at line 36].

As per dependent claim 13:
Senator teaches wherein the application program is coupled for communication with the multiplexor via one of /proc file system, ioctl, system call, and direct function call [see system calls and ioctl disclosed by Senator, col. 6, lines 48-54].

As per dependent claim 14:
Senator teaches the multiplexor communicates with the plurality of device drivers via function calls [e.g., see discussion of "kernel statistics module" and associated discussion col. 4, beginning line 5, discussion cont'd at line 36; see pseudo-device driver 50 and associated discussion beginning col. 4, line 58].

As per independent claim 26:

This claim is rejected for the same reasons detailed above in the rejection of claims 9-11.

As per dependent claim 27:
See the rejection of claim 11.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 24 & 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Merrell et al.** (U.S. Patent 6,553,408) in view of **Kanojia et al.** (U.S. Patent 6,714,992).

As per dependent claims 24 & 25:
Merrell discloses the invention substantially as claimed, as discussed above.

However, **Merrell** does not *explicitly* teach the following additional limitations:

Kanojia teaches the notoriously well known use of digital subscriber line (DSL) devices [e.g, see "DSL" disclosure beginning, col. 5, line 48]. DSL is implemented on a a plain old telephone system (POTS), such as the conventional telephone network disclosed by Kanojia, col. 1, line 30.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to improve upon the system taught by **Merrell** by implementing the improvements detailed

above because it would provide **Merrell's** system with the enhanced capability of transmitting and receiving digital data over a twisted-pair telephone line.

6. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Senator** (U.S. Patent 5,809,303) in view of **Kanojia et al.** (U.S. Patent 6,714,992).

As per dependent claim 28:
Senator discloses the invention substantially as claimed, as discussed above.

However, **Senator** does not *explicitly* teach the following additional limitations:

Kanojia teaches the notoriously well known use of digital subscriber line (DSL) devices [e.g, see "DSL" disclosure beginning, col. 5, line 48].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to improve upon the system taught by **Senator** by implementing the improvements detailed above because it would provide **Senator's** system with the enhanced capability of transmitting and receiving digital data over a twisted-pair telephone line.

Prior Art not relied upon:

Please refer to the references listed on the attached PTO-892
which are not relied upon in the claim rejections detailed above.

How to Contact the Examiner:

Any inquiry concerning this communication or earlier communications from the examiner should be directed to St. John Courtenay III, J.D., M.B.A., whose telephone number is 703-308-5217. A voice mail service is also available at this number. The Examiner can normally be reached on Monday - Friday, 8:30 AM - 5:00 PM. After Oct. 25, 2004, the Examiner's telephone number at the new Alexandria PTO location will be 571-272-3761.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, An Meng-AI who can be reached on 703-305-9678. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

All responses sent by U.S. Mail should be mailed to:

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Patent Customers advised to FAX communications to the USPTO

http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/faxnotice.pdf

Effective Oct. 15, 2003, ALL patent application correspondence transmitted by FAX must be directed to the new PTO central FAX number:
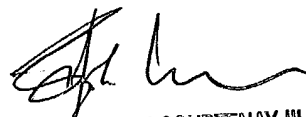
**NEW PTO CENTRAL FAX NUMBER:
703-872-9306**

- Any inquiry of a general nature or relating to the status of this application should be directed to the **TC 2100 Group receptionist: (703) 305-3900.**

Please direct inquiries regarding fees, paper matching, and other issues not involving the Examiner to:
    Technical Center 2100 CUSTOMER SERVICE: 703 306-5631

The Manual of Patent Examining Procedure (MPEP) is available online at: **http://www.uspto.gov/web/offices/pac/mpep/index.html**

ST. JOHN COURTENAY III
PRIMARY EXAMINER